Abstract

The present invention relates to muteins of the bilin-binding protein with binding activity to digoxigenin and to fusion proteins of such muteins, a method for preparing said muteins and fusion proteins thereof and their utilization for detecting or binding digoxigenin-labeled biomolecules. The invention especially relates to a polypeptide selected from muteins of the bilin-binding protein, characterized in that (a) it can bind digoxigenin or digoxigenin conjugates, (b) it does not bind ouabain, testosterone, and 4-aminofluorescein and (c) at least one of the sequence positions 28, 31, 34, 35, 36, 37, 58, 60, 69, 88, 90, 95, 97, 114, 116, 125, and 127 of the bilin-binding protein has an amino acid substitution. Due to their simple molecular structure, the inventive muteins provide advantages for production and utilization in comparison with antibodies against the digoxigenin group.